

Per the Telephone Interview with the Examiner summarized above, please amend the case as follows:

In the Claims:

Please cancel claims 2, 4, 13, 15, 24, and 26 without prejudice or disclaimer as to the subject matter recited therein.

Please amend claims 1, 3, 5-9, 12, 14, 16-19, 23, 25, and 27-30 as follows.
Marked-up versions of these claims are included in Attachment A.

Sub B1

1. (Amended) A method for scanning for an object within a region, comprising:
scanning the region using a conformal scanning scheme, said scanning comprising:
performing a conformal mapping between a characteristic geometry of the region and a first scanning curve to generate a conformal scanning curve based on said characteristic geometry; and
measuring the region at a plurality of points along the conformal scanning curve;
determining one or more characteristics of the object in response to said scanning;
and
generating output indicating the one or more characteristics of the object.

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3. (Amended) The method of claim 1, further comprising:
determining the characteristic geometry of the region prior to said generating the conformal scanning curve.

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5. (Amended) The method of claim 1, wherein the first scanning curve minimizes one or more of angle deviations and curvature.

6. (Amended) The method of claim 1, wherein the conformal curve has a maximum curvature below a specified curvature value.

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7. (Amended) The method of claim 1, wherein the first scanning curve is an optimum scanning curve for a first geometry.

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8. (Amended) The method of claim 1, wherein the first scanning curve is comprised in a first geometry, wherein the first scanning curve comprises a subset of points in said first geometry, and wherein said performing a conformal mapping between said characteristic geometry and said first scanning curve comprises:

determining a mapping function which maps each point in the first geometry to a corresponding point in the characteristic geometry; and

applying said mapping function to each point in said subset of points in said first geometry to generate a corresponding subset of points in said characteristic geometry, wherein said subset of points in said characteristic geometry comprises said conformal scanning curve.

9. (Amended) The method of claim 1,
wherein said measuring the region at a plurality of points along the conformal scanning curve produces data;

wherein said determining one or more characteristics of the object in response to said scanning comprises examining said data.

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12. (Amended) A system for scanning for an object within a region, comprising:
a sensor; and

a computer which is operable to couple to said sensor, said computer comprising:

a CPU; and

a memory medium which is operable to store a scanning program;

wherein said CPU is operable to execute said scanning program to perform:

scanning the region with said sensor using a conformal scanning scheme,
said scanning comprising:

performing a conformal mapping between a characteristic geometry of the region and a first scanning curve to generate a conformal scanning curve based on said characteristic geometry; and

measuring the region at a plurality of points along the conformal scanning curve;

determining one or more characteristics of the object in response to said scanning; and

generating output indicating the one or more characteristics of the object.

14. (Amended) The system of claim 12, wherein said CPU is further operable to execute said scanning program to perform:

determining the characteristic geometry of the region prior to said generating the conformal scanning curve.

16. (Amended) The system of claim 12, wherein the first scanning curve minimizes angle deviations.

17. (Amended) The system of claim 12, wherein the conformal curve has a maximum curvature below a specified curvature value.

18. (Amended) The system of claim 12, wherein the first scanning curve is an optimum scanning curve for a first geometry.

19. (Amended) The system of claim 12,
wherein said measuring the region at a plurality of points along the conformal scanning curve produces data; and
wherein said determining one or more characteristics of the object in response to said scanning comprises examining said data.

23. (Amended) A memory medium containing program instructions to scan for an object within a region, wherein said program instructions are executable to perform:

scanning the region using a conformal scanning scheme, said scanning comprising:

performing a conformal mapping between a characteristic geometry of the region and a first scanning curve to generate a conformal scanning curve based on said characteristic geometry; and

measuring the region at a plurality of points along the conformal scanning curve;

determining one or more characteristics of the object in response to said scanning;

and

generating output indicating the one or more characteristics of the object.

25. (Amended) The memory medium of claim 23, wherein said program instructions are further executable to perform:

determining the characteristic geometry of the region prior to said generating the conformal scanning curve.

27. (Amended) The memory medium of claim 23, wherein the first scanning curve minimizes angle deviations.

28. (Amended) The memory medium of claim 23, wherein the conformal curve has a maximum curvature below a specified curvature value.

29. (Amended) The memory medium of claim 23, wherein the first scanning curve is an optimum scanning curve for a first geometry.

30. (Amended) The memory medium of claim 23,
wherein said measuring the region at a plurality of points along the conformal scanning curve produces data; and

wherein said determining one or more characteristics of the object in response to said scanning comprises examining said data.